

**Alaska
Right of Way
Pest Control
Supplemental Information**



Category Nine

In general, applicators who apply pesticides to property other than their own, or act as a pesticide consultant must obtain certification from the Alaska Department of Environmental Conservation (ADEC) Pesticide Program. Applicators who apply restricted-use pesticides, regardless of location, must also be certified.

All individuals who apply pesticides to control pests in rights-of-way (ROWs) in Alaska must be certified by the ADEC in the Right of Way Pest Control Category (Category Nine).

The information needed to successfully complete the written core examination required for all certified pesticide applicators in Alaska includes:

1. National Pesticide Applicator Certification Core Manual;
2. Alaska Core Manual Supplement; and
3. State of Alaska Pesticide Regulations in Title 18, Chapter 90 of the Alaska Administrative Code (18 AAC 90)

The information needed to successfully obtain certification in Category Nine in Alaska includes:

1. This Alaska Supplemental Manual; and
2. The Washington State University *Rights of Way Vegetation Management Manual*.

WASHINGTON STATE UNIVERSITY RIGHTS OF WAY VEGETATION MANAGEMENT MANUAL

Portions To Disregard

You may disregard the following sections or pages of the Washington State University *Manual*, as they do not apply in Alaska:

- **Laws Affecting Weed Management;** pages 37-38. Washington laws and regulations do not apply in Alaska.

Learning Objectives

Introduction

- List various types of areas that are considered rights-of-way
- List some reasons why vegetation management in a right-of-way might be necessary.
- Explain why the characteristics of a right-of-way can make public relations an important issue in vegetation management.

Basic Weed Science

- Describe what a weed is.
- Explain why introduced plants can be.
- List some ways that seeds spread.
- List the characteristics of weed seeds that make them difficult to eradicate.
- Describe the identifying characteristics of a grass.
- Describe the identifying characteristics of a broadleaf plant.

- Describe the difference between an annual plant and a perennial plant.
- Describe the various ways that perennial plants may spread that do not involve seeds.

Integrated Vegetation Management

- Explain why identifying the weed is essential for adequate control.
- Explain the purpose of scouting a right-of-way on a regular basis.
- Define the term threshold.
- Explain how landscape preparation can help prevent weed outbreaks.
- List some ways to prevent weeds from becoming established.
- Explain some disadvantages to mechanical methods of vegetation control, including use of hand tools, mowing and brush cutting, and fire.
- List some cultural methods of controlling vegetation.

Herbicides

- Describe the difference between contact herbicides and systemic herbicides.
- Explain why it is important to get uniform coverage of the entire plant with a contact herbicide.
- Describe the difference between selective and non-selective herbicides.
- Explain how some of the characteristics of plants affect herbicide selectivity.
- Explain how factors such as application rate, timing, formulation, location, and method affect herbicide selectivity.
- For each of the following modes of action, explain how they work to control weeds, and list some common pesticides with this mode of action: growth regulator, amino acid synthesis inhibitors, lipid inhibitors, seedling growth inhibitors, photosynthesis inhibitors, cell membrane disruptors, and pigment disruptors.
- Explain why it is important to know the 17 different herbicide groups.

Herbicide Performance

- Define and explain the difference between adsorption and absorption.
- Explain why herbicides are least likely to adsorb to sand, and most likely to adsorb to clay.
- Explain why herbicides are more likely to adsorb to soils with high organic content.
- Describe the type of soil which herbicides are most likely to leach through.
- Explain why higher air temperatures can lead to less herbicide selectivity.
- Explain why rainfall can result in poor weed control for both foliar and soil-applied herbicides.
- Explain how humidity can affect herbicide efficacy.
- Explain how wind can affect herbicide efficacy.
- List the four growth stages of a weed.
- Name the growth stage of an annual weed that is most susceptible to control efforts.
- Explain why it is important to know when plant sugars flow from leaves towards the roots in perennial plants.
- Name the growth stages of a perennial weed that are generally most susceptible to herbicides, and explain why.

- Name the part of a cut stump that should be treated with herbicide to prevent re-growth, and explain why treating this area is effective.
- Explain the difference between herbicide tolerance, herbicide resistance, and herbicide susceptibility.
- Describe several techniques to help prevent the development of herbicide resistance.

Precautions

- List seven factors that may impact the amount of spray drift from applying herbicide.
- Define the term ‘vapor drift’.
- Describe how humidity and temperature can impact vapor drift.
- List several techniques that will help prevent contamination of surface water.
- List some factors that can increase the chance of herbicide leaching into groundwater.
- Explain why it is advisable to dedicate application equipment to one type of herbicide.
- Explain how to dispose of rinsate from cleaning application equipment.
- Explain why wettable powders and other suspensions cannot be left in a sprayer tank without agitation.
- List some factors that determine the length of residual activity of a herbicide.
- List some precautions to take when using long-term residual herbicides.
- Define the term ‘photodegradation’.
- Define the term ‘microbial degradation’.
- Define the term ‘chemical degradation’.
- Explain how adsorption, leaching, volatilization, uptake by plants, and soil pH can affect the persistence of herbicides.
- Describe several methods to help reduce levels of residual herbicide in soil.

Herbicide Application

- Describe the following types of applications: preplant incorporation, preemergence application, postemergence application, broadcast treatment, spot treatments, band treatment, directed sprays, basal sprays, thin line treatments, cut stump, frill, tree injection, soil treatment, invert emulsions.
- Describe the purpose and characteristics necessary in a sprayer tank, pump, agitator, strainer, and hose.
- List the three basic nozzle patterns.
- List the advantages and disadvantages of the following nozzle materials: tungsten carbide, ceramic, stainless steel, brass, nylon, aluminum.
- List items that should be checked prior to beginning calibration.
Describe the process for cleaning spraying equipment.
- Describe the process for preparing spraying equipment for storage.

Calculations and Calibration

- List three things that must be determined prior to each pesticide application.
- Calculate irregular shaped areas and perimeters.
- Describe the steps for calibrating a granular spreader.
- State when nozzle tips should be replaced.

- List the three variables that determine sprayer delivery rate.
- State the best way to make major changes to sprayer flow rate.
- Describe the steps for calibrating a boom sprayer.
- Explain guidelines for tank mixing different herbicides.
- Explain the purpose of adjuvants, including stickers, spreaders, penetrants, and buffers.
- Calculate effective application rate and swath width of a granular spreader, application rate of a boom sprayer, and other example problems.

Before Using Any Pesticide

STOP

**All pesticides can be harmful to health
and environment if misused.**

**Read the label
carefully. Use only
as directed.**